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EX PARTE

April 23, 1998

RECEIVED

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Ms. Magalie Roman Salas
Secretary - Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

RE: CC Docket Nos. 96-45 and 97-160

Dear Ms. Salas,

DOCKET FILE COPY ORIGINAL

Today, I sent the attached information to Chuck Keller and Brad Wimmer of the Universal Service Division of the Common Carrier Bureau in regard to the above referenced dockets. This information supplements and clarifies issues shared with the staff in an April 16, 1998 meeting concerning the clustering and distribution methodology employed by the HAI model.

The original and three copies of this notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206(b)(1) of the Commission's rules. If there are any questions, please call.
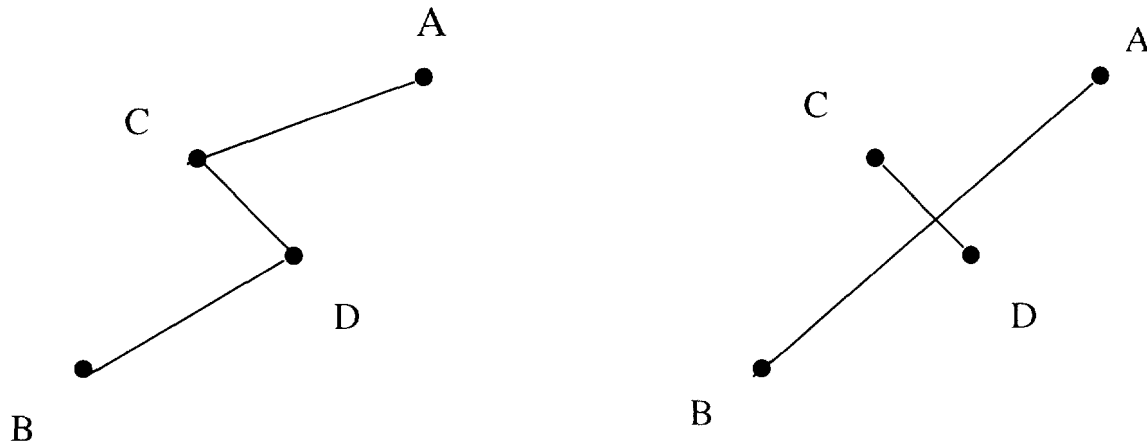
Sincerely,

Pete Sywenki

Attachments

cc: Chuck Keller
       Brad Wimmer

Hatfield Clusters and a Note Regarding the Minimum Spanning Tree:

In a few unique cases, it is possible that points in a telephone network could be connected with an amount of cable that was slightly less than the length of the minimum spanning tree. An example of this is shown below.

The cable connecting the 4 points in the left figure represents the minimum spanning tree, and is slightly longer than the cable length in the figure on the right. (In actual measures, the cable in the right figure is 92.3% of the length of the cable in the left figure.)

In the few cases where this might occur, we have found the difference in length to be consistently less than 10%. In other words, where a minimum spanning tree for a given cluster might equal 10,000 feet, it is possible that the points in that cluster could be served with only 9,000 feet of cable (depending on how those points were configured).

To eliminate confusion, the table on the following page lists several additional Nevada clusters and the length of each cluster's longest diagonal. (In the examples above, this would be the distance between points A and B.) The table also lists the amount of distribution cable built by the Hatfield Model to serve these clusters.

The cluster's longest diagonal serves as an <u>absolute lower bound</u> in terms of the amount of cable required (since the cluster's configuration is based on the actual locations of the points in that cluster.) The only case in which the diagonal length would represent the actual required length of cable is when all points in a cluster were located in a straight line.

In the vast majority of cases, the minimum required cable would be significantly MORE than the longest diagonal of the cluster. But using the diagonal length provides us with an ultra-conservative measure of the required plant per cluster.

Hatfield 5.0a Cluster Diagonal / Distribution Comparison

Cluster Name		Approximate Length of Polygon Diagonal (Prior to Conversion to Rectangle. In feet.)	Total Distribution Distance within Main Cluster built by Hatfield Model 5.0a (Distribution Module Cell BU minus Cell CQ (Cell CQ represents outlier road distance, in most cases zero))
ALAMNVXF	C001	31,000	40,274
"	C002	27,000	3,463
"	C003	35,000	958
""	C004	25,000	13,257
"	C005	35,000	18,517
"	C006	22,000	5,296
"	C007	28,000	14,523
"	C008	25,000	22,296
"	C009	26,000	10,289
"	C010	25,000	15,922
"	C011	23,000	6,653
"	C012	12,000	2,141
"	C013	29,000	22,008
"	C014	28,000	10,781
"	C015	18,000	12,344
"	C016	25,000	7,719
"	C017	27,000	7,471
"	C018	28,000	8,697
AUSTNV11	C001	22,000	9,276
"	C002	21,000	1,305
"	C003	27,000	354
"	C004	34,000	13,911
"	C005	28,000	4,208
"	C006	22,000	1,481
"	C007	19,000	1,657
"	C008	19,000	2,755
"	C009	24,000	68,331

Note that out of 27 clusters in 2 wire centers shown above, only two (2) clusters built more distribution than the cluster diagonal.

It is important to remember that this is no way implies that sufficient distribution was built in those two clusters, only that sufficient distribution was built to cross the cluster's diagonal axis. For example, in the cluster ALAMNVXFC001, the Hatfield Model builds 46 lines and in the cluster AUSTNV11C009, the Hatfield Model builds 215 lines. The large number of lines in each suggests a need for substantially more distribution than just the amount required to traverse the cluster's diagonal.